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Financing Canadian SME Exporters



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Aussi offert en français sous le titre *Le financement des PME exportatrices canadiennes*.

This empirical paper compares access to, and terms of, commercial lending between small and medium-sized exporter and non-exporter firms. Theory suggests that exporter firms might be relatively disadvantaged. This is found to be true for new firms (international new ventures), but no differences were identified between established exporter and non-exporter firms.

Introduction

In Canada, small and medium-sized enterprises (SMEs) comprise 97 percent of all firms that sell goods and services abroad (Halabisky, Lee and Parsley, 2005) and SME exporters contribute far more than their proportional share of job creation.¹ Given such strong links between export growth and Canadian economic welfare, it is important to understand the obstacles that may limit SMEs' growth. One potential barrier is access to financial capital. To the extent that exporter firms are relatively disadvantaged with respect to debt financing, their ability to engage in market development and to compete internationally is potentially compromised. Financing is an essential ingredient in the growth and survival of businesses. However, commercial lenders typically treat small loans as personal loans to the owner(s) of the business and such loans are increasingly adjudicated through credit scoring methods. Lenders also often require security, either in the form of collateralizable assets of the business or of its owners (or from loan guarantee programs such as the Canada Small Business Financing Program). For exporters, both inventories and accounts receivable may be held by offshore clients or suppliers, potentially increasing exporter firms' risk exposure. Therefore, the primary goal of this study is to examine empirically the extent to which Canadian SME exporter firms face disproportionate difficulty in accessing debt financing from commercial lenders. Accordingly, the results described here report on the analysis of two related research questions:

1. To what extent do market failures and imperfections limit access to capital by Canadian SME exporters?
2. What is the nature of any such imperfections and what form of remediation is best suited to redress such failures?

To answer these questions, this paper is organized as follows. The first part provides a summary of previous related research, leading to development of the study propositions. This is followed by an outline of the data and methodologies employed. The paper provides breakdowns of salient attributes of Canadian exporter SMEs. Empirical findings are then detailed and the paper closes with a discussion of the findings, implications and limitations of the work, as well as suggestions for future research.

¹ Halabisky, Lee and Parsley (2005) report that 47 percent of all jobs created in Canada between 1993 and 2002 were attributable to the 6 percent of firms that exported.

Previous Research

Canadian SME Exporters

Decreasing telecommunication costs, integrated transportation, expanded information networks and increasing globalization of trade (among other factors) are enabling even the smallest firms to export. According to Statistics Canada (2005), 8.3 percent of Canadian SMEs² export and, on average, Canadian SME exporters derive 33 percent of sales revenues from exports.³ The vast majority of Canadian firms have fewer than five employees, yet approximately 7 percent of even these micro-firms reported revenues from export sales. The propensity to export increases with the size of the enterprise: among firms with 5 to 19 employees, 13 percent reported export sales; one quarter of companies with 20 to 99 employees exported (Statistics Canada, 2005).

It is widely understood that goods-producing firms are more likely to export. To examine this belief, Table 1 provides a breakdown of the Canadian population of SMEs by North American Industry Classification System (NAICS) sector and exporter status. It is true that firms in the manufacturing and knowledge-based sectors were especially likely to be exporters (31 percent of manufacturers and 17 percent of knowledge-based firms reported revenues from export sales during 2004 (Statistics Canada, 2005)). The *proportion* of exporters among services firms is lower than that in manufacturing. Table 1 shows that because of the sheer size of the services sectors, however, services firms account for more than 40 000 of Canada's 104 000 exporter SMEs, with another 24 000 exporter firms in the retail and wholesale sectors. Exporters in the manufacturing sector represent less than 20 percent of all SME exporters.

Financing Gaps and Canadian SME Exporters

Conceptually, the presence of financing gaps, especially to small and medium-sized enterprises, has been the subject of extensive research and debate for the last several decades (see Cressy (2002) and Parker (2002) for comprehensive reviews of this literature). Gaps in the capital market have traditionally been ascribed to information asymmetries, typically situations where the borrower is assumed to hold more information about the future of the enterprise than the lender. As Parker (2002: 163) states the case:

“Information about [small] firms may be limited and asymmetric, stacked on the side of the borrower at the lender's hazard. This has led many influential academics and politicians to claim that these problems can be so severe that the supply of finance may disappear altogether. Banks, it is argued, may ration credit to new enterprises, strangling new, dynamic and innovative future industrial giants at birth.”

² For the purposes of this study, small and medium-sized enterprise exporters are defined as businesses with fewer than 500 employees and less than \$50 million in annual revenues that sold goods or services outside Canada during 2004. This definition excludes non-profit and government organizations, schools, hospitals, subsidiaries, co-operatives, and financing and leasing companies.

³ Halabisky, Lee and Parsley (2005) report that approximately 2 percent of small businesses (firms with 1 to 99 employees) and 12 percent of medium-sized firms (100 to 499 employees) export; however, this estimate is drawn from Statistics Canada's Exporter Registry and includes only merchandise or goods exporters. Also, Statistics Canada's Exporter Registry does not count as exporters establishments that export less than \$30 000 of exports in at least one year.

Table 1**SMEs and SME Exporters by Sector**

Sector	All SMEs		Exporter SMEs	
	Firms	% of Total	Firms	% of Total
Professional Services	233 231	17.9	28 267	27.1
Wholesale and Retail	192 371	14.7	24 175	23.2
Manufacturing	64 041	4.9	20 377	19.6
Other Services	304 274	23.3	12 231	11.7
Primary	111 939	8.6	7 835	7.5
Transportation and Warehousing	72 351	5.5	7 296	7.0
Other	327 178	25.1	4 028	3.9
Total	1 305 385	100.0	104 209	100.0

Source: SME Financing Data Initiative, Statistics Canada, *Survey on Financing of Small and Medium Enterprises*, 2004.

According to this literature (OECD, 2006, among others), a capital market gap exists if:

- (a) among loan applicants who appear to be identical, some receive credit while others do not; or
- (b) there are identifiable groups in the population that are unable to obtain financing at any price.

The presence of a capital market gap suggests an imperfection in the marketplace and may justify intervention. However, Brierley (2001: 75) also notes that there are dangers inherent in interventions that are not founded on clear evidence of gaps:

“... in the absence of market failure, such initiatives may themselves cause distortions by subsidizing, at considerable public cost, non-viable firms which are not attracting enough capital because they do not offer good investment opportunities.”

To the extent that SME exporters comprise an identifiable group that is less able to obtain financing than non-exporters, a capital market gap may be implied and intervention warranted. Conceptually, one could argue that exporters’ asset structures comprise accounts receivable due from foreign clients and inventories that may be in transit, both situations that might arguably increase the informational asymmetry between borrower and lender and thereby contribute to the concerns of lenders that systemically assess exporters as facing relatively greater risk.

Among SME exporters, a subgroup of particular interest is that known as “international new ventures (INVs).” INVs are important because they defy the widely accepted “stage theory” of internationalization whereby firms are thought to evolve to exporting after starting locally, expanding regionally and nationally, and only then gaining the economies of scale necessary to enter international trade. Oviatt and McDougall (1994) and Knight and Cavusgil (1996) were among the first to note that some small firms exported virtually from inception. Although rapid internationalization of small firms was identified as early as the 1970s, it was largely overlooked by researchers. Zahra (2005) adds to this discussion arguing that INVs face three types of liability, any of which “can increase the risk of INVs’

potential failure” and thereby reduce firms’ access to debt financing. These liabilities include newness and inexperience, which, according to Zahra, limit access to resources (including financial resources); size in that many INVs are small firms with few slack resources (constraining their ability to compete); and “foreignness of INVs,” requiring them to work especially hard to overcome barriers to entry.

In addition to the conceptual arguments that newness, size and dependence on foreign clients may exacerbate information asymmetry, there appears to be some suggestive empirical evidence that SME exporters may face greater difficulty accessing capital relative to non-exporters. Recent results from the SME Financing Data Initiative (SME FDI) indicate that loan applications from exporters, at least at first glance, appear to have been turned down more often than loan applications from non-exporters.⁴ Although the difference in turndown rates between the two categories of firms was not statistically significant, no allowance for size or other attributes of firms was made. As noted above, exporter firms are systematically larger than non-exporters and because of the larger size they ought to be more creditworthy. Hence, the stated difference in turndown rates may potentially understate the underlying difference once size (and perhaps other factors) is controlled for. Therefore, the extent to which turndown rates differ, after controlling for other determinants of access to credit, remains unclear.⁵ This study seeks to test empirically the extent to which exporter SMEs face disproportionate access to commercial loans after accounting for size and other potential determinants of creditworthiness. To accommodate this task, the following research propositions are employed as a framework.

Proposition 1: After controlling for firm size, sector and other salient measures of creditworthiness, exporter SMEs experience relatively less access to, and worse terms associated with, commercial loans.

Proposition 2: Among exporter SMEs, international new ventures experience relatively less access to, and worse terms associated with, commercial loans.

Data and Methodology

Sources of Data

Data for this study were obtained from the *Survey on Financing of Small and Medium Enterprises*, 2004, a joint initiative of Statistics Canada, Finance Canada and Industry Canada. It is part of a program that seeks to help inform public policy through collection and analysis of financing data representative of the population of Canadian SMEs. The sampling frame for the survey comprised 34 509 enterprises drawn randomly from Statistics Canada’s Business Register. The survey was conducted between September 2004 and March 2005 and comprised two parts.⁶ The first part consisted of a computer-aided telephone interview of primary owners of businesses in the sampling frame. This portion of the survey collected extensive firm and owner demographic information as well as data

⁴ SME Financing Data Initiative, Statistics Canada, *Survey on Financing of Small and Medium Enterprises*, 2004, Table 7. In addition, Table 32 shows that exporters were significantly more likely to identify access to financing as a barrier to growth than non-exporters.

⁵ Also, surveys of members conducted by the Canadian Federation of Independent Business (CFIB) report that a disproportionate number of “younger, high-growth firms” were among those businesses that were unable to obtain the financing they sought (Bruce, 2001).

⁶ Financing and leasing companies, co-operatives, subsidiaries, non-profit organizations, government organizations, schools, hospitals and other public sector organizations are not covered by this survey.

regarding the firms' most recent application for financing. Eligible enterprises had gross annual revenues of less than \$50 million, had fewer than 500 full-time-equivalent employees and were operational during the reference year. Estimates of loan outcomes were generated from responses obtained from 13 042 SMEs, a response rate of 45 percent of in-scope businesses. Estimates related to the second part of the survey (financial statement information) were generated from fax-back responses to a paper questionnaire obtained from 3500 of the 13 042 respondents. Sampling weights were applied in compiling estimates in order that individual enterprises in the sample were weighted according to their representation in the target population.

Methodology

Comparison of financing experiences between the two sets of firms (exporters and non-exporters) needed to be conducted, to the extent possible, on a *ceteris paribus* basis by controlling for those factors that are reasonable determinants of financing outcomes and that may also vary systematically between the two groups of firms. Accordingly, it is essential to identify and measure factors that suppliers of capital normally and reasonably consider in their financing decisions. The empirical challenge is to determine the impact of two types of factors associated with access to, and terms of, credit. The first set of factors includes those that are generally considered to be legitimate determinants of financing decisions: determinants of creditworthiness such as owners' track records, firms' attributes, etc. The other type of factor is that across which a gap has been hypothesized; in this study, whether or not a firm is an exporter business. Analysis must evaluate the impact of exporter propensity on access to credit while allowing for the effect of legitimate determinants of credit.

The first step in the analysis is essentially the estimation and validation of the equivalent of a "credit scoring model" that provides a reliable estimation of the actual lending decisions contained in the data. The approach used here is to estimate logistic regression models of the determinants of outcomes of term loan applications and (separately) outcomes of new applications for operating loans (lines of credit) based on data from the *Survey on Financing of Small and Medium Enterprises*. This approach is similar to credit scoring in that the dependent variable, whether or not a loan application was turned down, is statistically related to a set of independent variables that reflect attributes of the borrower firm, its ownership and measures of creditworthiness. Therefore, the scoring model derived here is a replication of commercial lenders' decisions based on loan decision outcomes revealed in the survey data.

The second step is to examine the extent to which the accuracy of the model is improved by adding a variable that connotes whether or not a firm is an exporter (or INV). Findings of a credit market gap would be consistent with a result that export propensity is a statistically and materially significant factor in a credit scoring model of loan decisions that already controls for other determinants of credit.

To estimate a model of lenders' credit decisions, variables were identified on the basis of two sources. The first source was the academic and professional literature. Finance textbooks and bank training materials have long stressed the "5 Cs" of commercial lending (see, for example, www.smallbusinessfinancetips.com/establishing-business-credit.html). According to this standard, determinants of credit outcomes include the firm's ability to service the loan ("capacity"), the firm's reliance on debt ("capitalization"), the firm's sensitivity to economic "conditions," the "character" of the principal owner(s) and the borrower's "collateral." In addition, the literature on credit rationing identified potential determinants of credit decisions that included the firm's relationship with the lender, the size of the borrower firm, the human capital of the owners and the collateral available.

The second source was contained in responses to the survey itself. Question D.6 of the survey asks those respondents whose loan applications were turned down to identify “what reasons were given to the business by the credit supplier for refusing to provide [the loan]?” The most frequent reasons respondents reported were that the applicant firm had insufficient income or sales revenues or that the firm or its owner lacked the necessary track record or credit history (www.sme-fdi.gc.ca/epic/site/sme_fdi-prf_pme.nsf/en/01561e.html, Table 10).

These two sources of potential criteria are synthesized in Table 2 and broken down between exporter firms and non-exporters. Analysis of loan turndowns needs to take these factors into consideration in order to determine if exporters and non-exporters differ after accounting for potential systemic differences in the key determinants of access to credit. As shown in Table 2, the SME FDI survey data allowed for measurement of many of the factors that influence lenders’ credit decisions.

Inspection of Table 2 suggests that some of the measures of these factors are likely to be correlated with others. Given this potential for collinearity, it is appropriate to use principal components analysis to reduce the number of variables in the data (Stevens, 2002). The use of principal components analysis also allows a determination of the extent to which the logical dimensions under which the variables are categorized in Table 2 hold up empirically. The results of applying principal components analysis to measures of the potential lending criteria in Table 2 are presented in Table 3.

Inspection of the factor solution reveals five principal components for which the eigenvalues all exceeded 1.0. The principal components identified in Table 3 generally correspond well with the logical dimensions outlined in Table 2. As Stevens (2002, p. 389–390) notes, blind use of the eigenvalue criterion “can lead to retaining factors which may have no practical significance ... [yet] blind use [of the scree test] might lead to not retaining factors which, although they account for a smaller amount of variance, might be practically significant.” Here, the first factor appears to be associated with the age of the firm and the second factor expresses firm size. The third factor relates to lenders’ collateral demands. The fourth factor links to the number of account managers with whom the firms had dealt.

The final factor shows that firms’ debt-to-asset ratio is correlated with research and development (R&D) intensity. For these data, the debt-to-asset ratio is measured *following* financing and is, therefore, correlated with the loan decision. Accordingly, it ought not be used as a potential explanatory variable. Conversely, R&D intensity is, according to the literature, related to export propensity (Doutriaux and Chamberlin, 2006). Accordingly, the variables chosen to represent this factor structure were R&D intensity, collateral requirements and the number of full-time-equivalent employees.

Table 2**Lending Criteria**

Criterion	Measure (<i>n</i> = 13 042)	Non-exporters	Exporters
Character	Length of relationship with financial institution (years)	11.3	9.8
	Age of firm (years)	20.2	20.4
	Age of owner (years)	49.2	50.0
Capacity	Total revenues		
	Direct expenses		
	Full-time-equivalent employees	3.5	7.8
Capital	Total assets		
	Total equity		
Conditions	Industry sector		
Collateral	Availability of personal assets for collateral (%)	41.80	42.30
	Availability of commercial assets for collateral (%)	39.60	46.20
	Co-signature requirements (%)	6.80	8.20

The analysis focuses only on formal applications for term loans and new lines of credit.⁷ Also, it seems reasonable to expect that lending criteria differ across the type of loan application. For example, mortgage loans would arguably depend mainly on the value and liquidity of the underlying asset being financed. Likewise, decisions on term loans and operating loans may reflect different weightings of decision criteria. Thus, the models of loan outcomes estimated here are specific to each type of loan. This accounts for the possibility that exporter firms may face different challenges getting term loans compared with those they might face when they seek operating loans. This investigation is limited to these two types of loan because, in spite of the large number of respondents to the survey, there were too few exporter applicants to other forms of debt financing to permit reliable model estimation.

⁷ Wynant and Hatch (1991, p. 289) noted that from a borrower's perspective, loan applications are often declined on the basis of an initial discussion between a loan account manager and a potential borrower client. Wynant and Hatch estimated that 19 percent of informal inquiries resulted in a *perceived* loan turndown and that a further 35 percent were deferred by the banker until the client provided further information. Because information on informal turndowns is nebulous, this work considers only those applications that were sufficiently "formal" that documentation was involved. For this purpose, formal applications were defined as those in which the borrower submitted documentation to the lender in support of the request for financing. This is evidenced by respondents' answers to Question D.15 of the survey, "What documents were requested by the credit supplier as part of the application process?"

Table 3

Principal Components Analysis of Lending Criteria

Factor Loadings					
(for ease of interpretation, loadings of less than 0.4 are suppressed)					
Variable	1	2	3	4	5
Experience of primary owner	0.75				
Length of relationship with financial institution	0.73				
Age of owner	0.71				
Year started trading (1 if after 2002)	-0.64				
Full-time-equivalent employees		0.86			
Total revenues		0.86			
Collateral: Personal property required			0.76		
Collateral: Commercial property required			0.62		
Co-signature required			0.52		
Number of loan account managers				0.87	
Debt-to-assets ratio					0.78
R&D expenditure >20%					0.63

Potential explanatory variables were based on the variables available from the SME FDI survey listed previously. In addition to these variables, binary variables corresponding to industry classifications were also employed. As a first approach, the logistic regression models were estimated using all of the variables, but with sequential deletion of those variables that appeared to be non-significant at a 10-percent level of significance. This approach resulted in models that explained a statistically significant proportion of the variation in loan turndowns.

The leftmost columns of Tables 4 and 5 report, for operating and term loan applications, respectively, results of the estimation of the base logistic regressions that seek to relate turndown frequencies with attributes of the firm. In both cases, the models displayed statistically significant goodness-of-fit measures. Hosmer–Lemeshow statistics are not significant, indicating that the goodness-of-fit is at an acceptable level for in-sample predictive purposes. The pseudo-*r*-square measures are not as high as one might hope; however, they are reasonable for cross-sectional data where data such as Beacon scores are not available.

In order to test for possible differential access to credit between exporters and non-exporters and to take into account the impact of early-stage firms with respect to both access to credit and the role of INVs, a categorical variable was introduced into the analysis that connoted four types of firms:

- firms that started trading since January 2003 (**start-ups**) and also reported **exporting** (these are consistent with the definition of international new ventures);
- firms that started trading since January 2003 (**start-ups**) but **did not report exporting**;
- firms that started trading prior to January 2003 (**non-start-ups**) and also reported **exporting**; and
- firms that started trading prior to January 2003 (**non-start-ups**) but **did not report exporting**.

The rightmost columns of Tables 4 and 5 display the logistic regression models for operating and term loan applications, respectively, when expanded by the addition of the categorical variable mentioned above. In the case of operating loans, the addition of these variables added significantly (p -value < 0.000) to the explanatory power of the regression. This implies that the likelihood of being turned down for an operating loan depends, to a statistically significant extent, on the category. Specifically, Table 4 shows that early-stage firms (those started since 2002) are significantly more likely to be turned down for operating loans than established firms, after allowing for factors such as firm size, sector, collateral, etc. Specifically, interpretation of the $exp(\beta)$ column reveals that non-exporter start-up firms are 1.63 times more likely to be turned down for operating loans than non-exporter established firms after allowing for the other factors in the model. More importantly, start-up exporters (INVs) are 2.6 ($= 4.27/1.63$) more likely to have loan applications rejected than non-exporter start-up firms. This difference is statistically significant, again after accounting for the determinants of credit decisions used here. For term loan applications (Table 5), a similar pattern was identified; however, the difference was not as strong statistically, with the difference in turndown rates between start-up exporters and other firms being significant only at a p -value of 0.16.

These results confirm that, after allowing for other determinants of credit decisions, early-stage firms face relatively greater difficulty obtaining operating loans. Compared with established non-exporting SMEs, new non-exporting SMEs are 63 percent more likely to be turned down. Evidence that early-stage non-exporting firms also face difficulty obtaining term loans is not as strong; however, this may be understandable because term loans are often secured by the asset that the loan is financing.

Among exporter SMEs, the evidence is even more compelling. Early-stage SME exporters are more than four times as likely to be turned down for operating loans as established firms (whether the established firms are exporters or not). In addition, there is suggestive evidence (p -value = 0.16) that early-stage exporter firms are more likely to be turned down for term loans than established firms.

Table 4

Logistic Regression Results: Applications for Operating Loans

Operating Loan Applications Variable	Base Model			Expanded Model		
	Coefficient Estimate	<i>p</i> -value	Exp(β)	Coefficient Estimate	<i>p</i> -value	Exp(β)
Industry Sector		0.181			0.145	
Primary	-0.88	0.179	0.41	-1.15	0.075	0.32
Construction	-0.44	0.444	0.65	-0.53	0.360	0.59
Manufacturing	-0.15	0.782	0.86	-0.16	0.771	0.85
Wholesale	-0.73	0.178	0.48	-0.90	0.100	0.41
Finance, etc.	-0.20	0.863	0.82	-0.32	0.784	0.72
Professional Services	-0.75	0.171	0.47	-0.79	0.153	0.45
Accommodation, Food, etc.	0.54	0.384	1.71	0.33	0.596	1.39
Other Services	-0.18	0.732	0.83	-0.33	0.545	0.72
Personal Collateral	0.64	0.007	1.90	0.60	0.011	1.82
Commercial Collateral	0.06	0.822	1.06			
Co-Signature	1.28	0.000	3.61	1.39	0.000	4.00
Urban Location (vs Rural)	0.49	0.107	1.63			
No R&D Investment	-0.38	0.128	0.68	-0.44	0.086	0.64
Intensive R&D Investment	0.71	0.058	2.03	0.72	0.058	2.06
Full-Time-Equivalent Employees	-0.03	0.017	0.97	-0.03	0.023	0.97
<i>Firm Category</i>					0.004	
<i>Start-up/Exporter</i>				1.45	0.004	4.27
<i>Established/Exporter</i>				-0.32	0.390	0.72
<i>Start-up/Non-exporter</i>				0.49	0.064	1.63
Constant	-1.90	0.001	0.15	-1.52	0.003	0.22
Nagelkerke R^2	0.15	0.000		0.17	0.000	
Cox & Snell R^2	0.09			0.10		
Hosmer–Lemeshow		0.844			0.475	
In-Sample Prediction Accuracy	0.84			0.844		

Table 5

Logistic Regression Results: Applications for Term Loans

Term Loan Applications Variable	Base Model			Expanded Model		
	Coefficient Estimate	<i>p</i> -value	Exp(β)	Coefficient Estimate	<i>p</i> -value	Exp(β)
Industry Sector		0.000			0.000	
Primary	-0.16	0.794	0.85	-0.09	0.886	0.92
Construction	0.78	0.207	2.19	0.85	0.175	2.33
Manufacturing	1.54	0.006	4.66	1.55	0.007	4.72
Wholesale	1.49	0.008	4.45	1.57	0.006	4.80
Finance, etc.	-18.67	0.999	0.00	-18.61	0.999	0.00
Professional Services	0.75	0.213	2.12	0.83	0.170	2.30
Accommodation, Food, etc.	2.14	0.000	8.50	2.17	0.000	8.78
Other Services	0.56	0.366	1.75	0.63	0.315	1.88
Personal Collateral	-0.14	0.606	0.87			
Commercial Collateral	-0.31	0.268	0.74			
Co-Signature	0.52	0.213	1.69			
Urban Location (vs Rural)	0.17	0.554	1.19			
No R&D Investment	-0.36	0.198	0.70			
Intensive R&D Investment	0.59	0.225	1.80			
Full-Time-Equivalent Employees	-0.03	0.006	0.97	-0.03	0.007	0.97
<i>Firm Category</i>					0.471	
<i>Start-up/Exporter</i>				0.98	0.160	2.66
<i>Established/Exporter</i>				-0.16	0.712	0.85
<i>Start-up/Non-exporter</i>				0.15	0.640	1.16
Constant	-2.22	0.000	0.11	-2.26	0.000	0.10
Nagelkerke R^2	0.166	0.000		0.172	0.000	
Cox & Snell R^2	0.088			0.092		
Hosmer–Lemeshow		0.092			0.110	
In-Sample Prediction Accuracy	0.874			0.869		

Terms of Credit

Table 6 compares terms of credit for both term loans and operating loans between exporters and non-exporters. The differences between exporters and non-exporters are not statistically significant at any reasonable *p*-value.

Table 6**Terms of Credit, Exporter and Non-Exporter SMEs**

	Interest Rate (%)	Interest Rate (variable %)	Interest Rate (fixed %)	Length of Term (months)	Business Collateral	Personal Collateral	Co-Signature Required
Term Loans							
Exporters	6.4	6.3	6.6	53	48.6%	38.7%	4.8%
Non-Exporters	6.2	5.9	6.6	62	46.6%	39.0%	4.9%
New Operating Loans							
Exporters	6.2	6.0	7.1		35.2%	41.3%	7.6%
Non-Exporters	6.1	6.0	7.0		35.3%	40.7%	5.9%

Source: SME Financing Data Initiative, Statistics Canada, *Survey on Financing of Small and Medium Enterprises*, 2004. $n = 13\ 042$

Summary, Discussion and Conclusions

The primary goal of this study was to examine empirically the extent to which Canadian SME exporter firms face disproportionate difficulty in accessing debt financing from commercial lenders. The analyses reported here do indeed show that commercial lenders reject applications for operating loans from early-stage SME exporters unusually often. Early-stage non-exporting firms are approximately 63 percent more likely to have loan applications turned down than established firms (even after allowing for several plausible determinants of creditworthiness). Early-stage exporter SMEs are more than four times as likely again to have applications for operating loans rejected. Although results are not as strong (from a statistical point of view) for term loan applications, a similar pattern was noted.

Financing is an essential ingredient in the development, growth and survival of businesses. Technological change and globalization have better enabled INVs to exploit opportunities in international markets; however, this study has found that start-up exporter firms are relatively disadvantaged with respect to debt financing. This potentially limits these firms' ability to engage in market development and to compete internationally. To the extent that Canadian INVs are finance-constrained, it will be increasingly difficult for such firms to prosper within Canada's relatively small home market. Constraints on INVs' ability to grow through export market development potentially compromise their ability to contribute to job creation and national prosperity. Brierley (2001) argues that "intervention should be targeted at those areas where market imperfections can be identified." To this end, many nations and trade associations have undertaken initiatives that seek to redress perceived imperfections. Typically these involve support for financing of operating loans or steps to stimulate the formation of risk capital.

The literature on capital rationing and capital gaps suggests that for a market gap to exist, an imperfection in the financial marketplace must be present. This study has found that a particular category of firm, early-stage exporters, appears to face relatively greater difficulty in accessing commercial loans. This result is consistent with, but not proof of, a financing gap according to the second criterion adopted by the Organisation for Economic Co-operation and Development (OECD); however, this is not definitive

evidence of a gap because one could argue that such firms face additional risk. Even when compared with other start-up firms, early-stage exporters may be perceived as risky because important assets, such as accounts receivable and portions of inventory, may be offshore and held by clients in countries from which realizing on the receivables may be risky. However, further research is required to investigate this point.

Although SME FDI data have allowed new insights into the financing of SMEs and SME exporters, gaps in our understanding remain. As noted earlier, future work might investigate the impact of country of destination of exports with respect to lenders' loan decisions. Further research is also required to study the impact of lending decisions on business owners' export decisions: To what extent do loan turndown decisions deter business owners from exporting? Other areas of research could include further examination of INVs and the types of financing they need to grow and survive in the global economy. These INVs are more innovative (have higher expenditures on R&D activities than other SMEs) and thus their demands for equity financing are higher. Although the research presented in this report focused on access to debt, a subsequent study could focus on the request for, and potential turndown of, informal and formal forms of risk capital financing. These and other research directions could be explored through modifications to future iterations of the SME FDI survey process.

Other topics for future research pertain to the interactions of SME exporter (or prospective exporter) firms and financial institutions. For example, this study does not, and cannot, examine lending decisions in the context of established firms that are seeking to undertake international trade. It would be useful to understand better the role of lending decisions made at the point that established domestic firms seek financing to fund development of export markets. It would also be of interest to understand better the extent to which business borrowers decide to forgo exporting out of a belief that they may not qualify for financing. Also, it remains to ascertain the difficulties and barriers (financial and non-financial) encountered by established firms that are at the point of exporting. Is there a minimum threshold level of production required for export and how might this threshold vary across types of enterprise? These are among the dimensions for future research, the findings of which would help provide better information on which to base policy decisions.

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